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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Yellowstone NATIONAL PARK

Copy----**FILE NO.** 143

Monthly Report

for

A U G U S T,

1920.

MONTHLY REPORT

1920.

August

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Notes from Ch. Ran., Pk. Naturalist, Hotel Architect, painter, electrician, Weather Bureau, and Engineers, attached.

Extra Copy

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

YELLOWSTONE NATIONAL PARK

YELLOWSTONE PARK, WYO.

19

OFFICE OF THE SUPERINTENDENT

September 9, 1920.

Dear Sir:

The following is my report on conditions in the Yellowstone National Park, and on the operation of the park, for the month of August, 1920:

GENERAL CONDITIONS:

The mean temperature during the month was 59.0, which was 1.9 degrees colder than normal. Killing frost occurred on the 31st, with a minimum temperature of 29 degrees, the lowest August temperature in 33 years' record, with one exception of 23 degrees in 1910. The total precipitation was 0.87 inches of water, which is 0.15 inches less than normal for August. The rainfall was distributed throughout the month in the form of 14 light thunder-showers. The sunshine was about normal. These weather conditions were almost ideal for comfort, and combined with smooth, well sprinkled roads, excellent service at hotels and permanent camps, and careful and courteous service on the part of the chauffeurs of the Yellowstone Park Transportation Company, the thousands of tourists who visited the park during August had every reason to be pleased, and many compliments were heard for the concessioners and general management of the park. On one day only, August 28th, it was necessary to have the transportation company send the regular cars between Canyon and Headquarters via Norris, because heavy rains and snow in the pass had made the Dunraven Pass road unsafe. But the disappointment of not seeing this beautiful part of the park was to some extent compensated by the sight of fresh snow in August, which was a novelty commented upon by everyone. On August 11th, a heavy landslide a few miles south of Emigrant, Montana, covered the Park Branch of the Northern Pacific Railroad, and delayed the afternoon train for several hours. The Transportation Company sent cars from the park as soon as the news was received, and brought the few tourists who were on the train to Mammoth by auto, and the hotel and permanent camp served them dinner on their arrival about 11:00

LARGEST DAYS FOR TOTAL NUMBER PASSENGERS ENTERING

Aug. 2d, 1498 August 5th, 1255

During the month of August, 1920, 33,958 people entered the park as compared with 25,171 people entering during August, 1919, which is an increase of 8,787 people or about 34 per cent.

During the month of August, 1920, 5,476 paid automobiles entered the park, as compared with 4,115 paid automobiles entering during August, 1919, which is an increase of 1,361 or about 33 per cent.

During the month of August, 1920, 12,301 people entered the park with the transportation company as compared with 8,477 people entering with the company during the same month in 1919, which is an increase of 3,824 people or about 45 per cent.

The total travel for the season to include August 31 was 72,421 people as compared with 56,231 people for the same period in 1919, when the total season's travel went to 62,261. If this rate of increase continues, a total season's travel of over 80,000 people can be expected.

Following will be found a list of states with the number of paid and complimentary cars and the number of people in these cars entering the park during the month of August from the different states:

	NORTH		WEST		EAST		SOUTH		TOTAL	
STATES	CARS	PEOPLE	CARS	PEOPLE	CARS	PEOPLE	CARS	PEOPLE	CARS	PEOPLE
Alabama					2	4			2	4
Arkansas	2	6	3	14	5	17			10	37
California	2	5	6	23	5	18			13	46
Florida	53	147	66	212	29	99	12	41	160	499
Idaho	21	66	35	117	122	424	6	26	184	633
Connecticut	4	9	1	4					5	13
Delaware										
Colorado	3	5			2	6	2	9	7	20
Montana	3	7	3	8	8	23			14	38
Georgia					1	4			1	4
Illinois			1	4					1	4
Iowa	30	95	508	1998	13	53	158	623	709	2769

	NORTH		WEST		EAST		SOUTH		TOTAL	
STATES	CARS	PEOPLE	CARS	PEOPLE	CARS	PEOPLE	CARS	PEOPLE	CARS	PEOPLE
Illinois	45	134	16	53	86	272	1	3	148	462
Indiana	17	62	8	21	30	102			55	185
Iowa	63	220	14	56	104	395	2	9	183	680
Kansas	18	65	27	103	100	350	15	53	160	571
Kentucky	1	2	1	3	5	19			7	24
Louisiana	1	4			3	11			4	15
Maine	1	4			2	6			3	10
Maryland	1	4			1	2			2	6
Massachusetts	4	9			15	53			19	62
Michigan	38	120	4	17	52	168	2	7	96	312
Minnesota	71	257	6	21	30	109			107	387
Missouri	22	78	18	64	77	281	1	4	118	427
Montana	740	2805	348	1386	176	661	3	15	1267	4867
Nebraska	40	144	24	87	181	648	9	26	254	905
Nevada			10	32	1	2	1	3	12	37
New Hampshire	1	4			1	6			2	10
New Jersey	2	4	1	6	8	23			11	33
New Mexico	2	6	3	13	9	33			14	52
New York	15	40	4	14	41	136			60	190
North Carolina	1	3							1	3
South Carolina	1	6	1	2					2	8
North Dakota	53	205	3	13	18	74			74	292
Ohio	19	61	6	20	41	165	1	5	67	251
Oklahoma	10	37	18	69	85	330	7	30	120	466
Mississippi					2	9			2	9
Georgia	24	81	40	138	7	21	4	10	75	250
Pennsylvania	11	43	2	7	21	69			34	119
Rhode Island	1	3							1	3
South Dakota	53	179	2	11	39	140			94	330
Tennessee	3	7			3	9			6	16
Texas	5	15	21	72	77	280	6	21	109	388
Utah	2	4	299	1146	7	18	38	345	396	1513
Mont Vermont					1	3			1	3
Virginia	3	10	1	2	1	3			5	15
Washington	98	326	76	226	26	105	4	13	204	670
West Virginia			1	5	4	13			5	18
Wisconsin	44	130	7	25	26	79			77	234
Wyoming	23	88	11	35	492	1729	49	179	575	2031
Canada	10	37	6	26	1	2			17	65
ALL	1561	5537	1601	6053	1960	6974	371	1422	5493	19986

Labor and Supply Market.

At no time during the working season have we had quite as many men as were needed in our various departments, but the shortage has not been great enough to warrant increasing the rates of pay. The spirit of unrest has even spread to our office force, and most of the clerks have been transferred, resigned, or expect to resign soon.

Forage and subsistence supplies are becoming more plentiful and a little cheaper in price. Manufactured articles are still scarce and expensive.

II. PERSONNEL:

Employees.

On August 1st there were 431 employees on duty under this office in the park, and on August 31st there were 301. Below is given a list of the number of employees serving under appointment, with a general statement of the kind of work performed by each class:

<u>No.</u>	<u>Class</u>	<u>Kind of work performed.</u>
1	Asst. Engr.	✓ In charge of road repair crews in vicinity of headquarters and on west side of park and on south road.
1	Blacksmith	✓ General blacksmith work. Shoeing draft animals and ranger saddle horses, and overhauling tools and equipment. Resigned, effective August 31st.
6	Clerks	✓ 1 disbursing agent and purchasing clerk; 1 on orders, proposals and vouchers (Transferred Aug. 22nd); 2 stenographers, files and revenues; 1 on payrolls and timekeeping (Resigned August 15th); 1 on cost accounting.
1	Steward and Master of Transportation	✓ In charge of all transportation and of storehouses.

<u>No.</u>	<u>Class.</u>	<u>Kind of work performed.</u>
3	Electricians	1 in charge of power plant who did necessary line work; 2 assistants who operated regular shifts including Sundays.
1	Buffalo Keeper	In charge of tame buffalo herd, feeding and caring for them, and in charge of crew putting up hay.
1	Asst. do.	Assisting buffalo keeper in caring for the buffalo herd.
1	Park Naturalist	- In charge of Information Office and Scientific Research.
7	Foremen	1 in charge of stables at headquarters; 1 in charge of engineering work; 1 in charge of construction of cement walks in Upper Geysers Basin; 1 in charge of repairs to sprinkling system; 3 in charge of road maintenance and repair crews.
1	General Foreman	In charge of construction work.
1	Handyman	Worked in storehouse issuing and receiving supplies.
1	Lineman	In charge of telephone system; did emergency work and installed instruments.
1	Watchman	Watchman at headquarters. Made hourly patrols for fire at night. Worked daily including Sundays.
1	Master Mechanic	In charge of shops and repair work and of heavy machinery in the field.
1	Plumber	In charge of general plumbing at headquarters and building automobile camp.
1	Painter	Renovated quarters at headquarters and painted signs and equipment for guidance of public in park.

<u>No.</u>	<u>Class</u>	<u>Kind of work performed.</u>
1	Telegraph Operator	Sent and received Western Union telegrams, also put in regular shift as switchboard operator, seven days a week.
2	Telephone Operators	Operated telephone switchboard.
1	Motorcycle Mechanic	Repaired motorcycles.
2	Automobile Mechanics	Repairing motor vehicles.
1	Laborer	Miscellaneous work at headquarters.
1	Chief Ranger	In charge of ranger force.
4	Asst. Chief Rangers	Assisting Chief Ranger. One in charge of southern district; 1 in charge of western district; 1 in charge of northern district; 1 in charge of Chief Ranger's Office.
6	1st class Park Rangers	In charge of ranger stations, on duty in Chief Ranger's Office, patrol duty in park protecting wild animals, and repairing game fences; also directing traffic, formation patrols, etc.
17	Park Rangers	ditto
34	Temporary Park Rangers	Same as above; also motorcycle patrols, checking automobiles, etc. (2 laid off Aug. 31, 1 laid off Aug. 12, 1 resigned Aug. 13).

The above employees were on duty as stated, with the exception of time during which they were on leave of absence.

In addition to the regular employees listed above the following were employed temporarily:

	<i>Sept</i> On Aug. 1st	<i>Sept 30</i> On Aug. 31st
Mechanics	28	23
Teamsters	90	48
Laborers.....	143	86
Skilled laborers.....	47	31
Cooks	26	17
Waitress	1	1
	335	206

Leaves of absence.

During August annual leaves of absence were granted as follows:

C.O. Lauer, Clerk,	1 day	Aug. 30th
A.C. Newmann, Painter,	1 day	Aug. 18th
Ford Purdy, Park Ranger,	3 day	Aug. 26-29

Appointments.

Aug. 11: Harry R. Marshall, Automobile Mechanic, \$120 per month.
 Aug. 11: W.H. Riley, Automobile Mechanic, \$120 per month.

Separations.

Aug. 22: L.M. MacRae, Clerk, \$1500 per annum. *Kransford*
~~Aug. 31: Tom Meek, Clerk, \$100 per month~~
 Aug. 31: Edgar E. Randolph, Park Ranger, \$80 per month.
 Aug. 31: Frank L. Plumlee, Blacksmith, \$1320 per annum.
 Aug. 15: Frank L. Fifield, Clerk, \$100 per month.
 Aug. 26: Ralph V. Harr, Park Ranger, \$1200 per annum.
 Aug. 12: William Henry Harrison, Park Ranger, \$1200 per annum.
 Aug. 13: William B. Holmes, Park Ranger, \$80 per month.
 Aug. 31: Tom Meek, Park Ranger, \$80 per month.

Arrangements were made effective Aug. 16 for services of Doctor W.E. Crawbuck as a resident physician, the expense being borne by assessing each employee \$1 a month, or \$2 a month if services are extended to the employee's family.

III. WORK COMPLETED:

(a) Construction of Physical Improvements.

The construction work on the underpass bridge near Sylvan Pass, under last year's contract with Perham & Harris, was completed on August 17th, within the time allowed under extension of contract, and the work has been inspected. ✓

A new log cabin with rubberoid roof was constructed August 1st to 10th near Frost Lake by a small crew building and repairing trails. This cabin is for winter shelter for rangers patrolling the park on snowshoes. ✓

A pair of new earth toilets were built in the carpenter shop and placed at Norris Station, and another pair at Shoshone Point. Four were made and sent to Lake Camp.

(b) Maintenance and Repair of Physical Improvements.

One small crew with pack train cleared and repaired the trail from Frost Lake to Turbid Lake, 26 miles. This crew also built one snowshoe cabin, referred to above, and beginning August 13 commenced the work of building a new trail from Turbid Lake to the East boundary, down Jones Creek. ✓

Another small crew cleared 80 miles of trail from Steamboat Point down east side of Yellowstone Lake to Cub Creek (6 miles); Cub Creek to Cody Road (4 miles); Cub Creek to Columbine Creek (10 miles); Columbine Creek to Cabin Creek (12 miles); Cabin Creek to Thoroughfare Creek (14 miles); Thoroughfare Creek to Fox Creek (12 miles); Fox Creek to Colter Creek (12 miles); and Colter Creek to Snake River Station (10 miles). This crew was then disbanded, but the pack train was employed transporting material for snowshoe cabins to be built and repaired in September in the southeast corner of the park. It also packed out about 20 miles of telephone wire reclaimed from the old line between Snake River and Bechler, which has never given satisfactory service and has been discontinued. ✓

Another small crew cut out fallen timber and repaired the trail on the east side of Shoshone Lake, also the Little Firehole Trail, from August 8th to 11th, a distance of 25 miles. This crew was then discontinued. Another small crew cleared 30 miles of trail, August 1st to 11th, from Buffalo Lake to Bechler station (18 miles), and from Buffalo Lake to Old Faithful (12 miles), when it was disbanded. ✓

One telephone line crew completed the work of overhauling the line between Tower Falls Ranger Station and Headquarters which was in progress at the end of July. 13 miles of line underwent heavy repairs, most of the poles having to be reset. ✓

The crew building public automobile camps completed the construction of the new camp at Upper Geyser Basin, except the permanent water system for that camp, which is still under progress. Additional timber was cleared to make more room in the camp, and garbage pits provided. ✓

A crew was engaged on the west entrance road for a portion of the month making repairs to the old oil-macadam pavement, which had become badly broken and rutted between the four and one-half and ten mile posts. The equipment for this work consisted of a Caterpillar Tractor, scarifier, power grader and gas-roller. The pavement was first broken up with the scarifier, then shaped with the grader and finally rolled.

At the Canyon a crew of eleven men and four teams placed gravel on the roads where needed, and a light grader worked the roads within a radius of five miles. The last of the month the 75 H.P. tractor with the power grader, scarifier, and gas-roller, arrived at the Canyon, but no work was done owing to repairs being made to the drive chains of the tractor.

The first of the month a crew of twelve men improved the fill over Geode Creek on the Tower Falls road. 400 cubic yards of material were placed on the fill and this capped with rock, with a depth of two feet. The road from ✓

Tower Falls has been graded up twice during the month, heavy rains having caused deep ruts and holes. 160 linear feet of 18" C.I. culverts and 120' of 24" C.I. culverts were installed. At the Beaver Dam, 5 miles from Mammoth, 100' of road was raised an average of 1 foot to avoid future trouble from water backed up by the dam.

(c) Miscellaneous Improvement Work.

One man was employed during the month irrigating the field at the north entrance near Gardiner. The crop is not worth the expense of cutting and will be left for pasture for the wild animals. The field will not have to be irrigated in September.

(d) Service to the Public.

The total number of tourists entering the park in August was 33,958, which beats all records for a single month, its nearest approach being 31,900 in July. Of the 12,301 tourists entering with the Yellowstone Park Transportation Company, about 55 per cent were accommodated at the hotels and the balance at the permanent camps. A large per cent of the 21,657 entering with private transportation also found accommodations at the hotels and camps, which were well filled throughout the month. The service by all concessioners continued most excellent, and numerous compliments were heard from travelers. A few complaints were received, and in most instances they were well founded, but it would be impossible to have organizations so nearly perfect that mistakes were never made, and corrective measures were taken whenever complaints were received that required them.

The complaints received centered principally on the following:

1. Graft of head waiters at some of the hotels, who took advantage of the crowded conditions to give preference in the dining rooms to those who offered substantial tips.

2. Necessity of standing in line at hotels waiting for a seat in the dining room. This also applied to camps at times, but not nearly so often, as the method of serving guests at meals at camps is so much simpler that less time is required for each sitting.
3. Necessity of waiting for coaches to be loaded, sometimes for an hour, due to the fact that there are large numbers to be loaded, and the loads are not made up in advance, requiring that everyone who is to go must be in readiness from the beginning until such times as their names are called.
4. Careless and often indifferent service at the Yellowstone Park Post-office, as regards the handling of mail.
5. Poor meals at Camp Roosevelt, where fish seems to constitute the chief article of diet.
6. Indifferent garage service furnished to motorists by the Yellowstone Park Transportation Company. This is probably due to the fact that it is necessary for this company to give preference to its own cars to keep them running so as to handle the immense crowds, but this can be remedied another year by hiring more mechanics.

The public camps occupied by travelers with their own camp equipment were used by so many that at the main camps at Headquarters, Upper basin, Lake and Canyon, a man was kept on duty daily keeping the grounds clean, providing wood, and general work.

One ranger was on duty throughout the month with the tame show herd of buffalo at Mammoth, and he estimates that about 16,000 tourists came to see the herd during August.

Information Service

A total of 5,252 inquirers visited the Information Bureau during the month of August. Two hundred and fifty (250) of these visitors asked specifically for the museum (the falling off in numbers from last month is due to the fact that we discouraged the guides and others from mentioning a museum until we were better prepared). Virtually all the visitors were interested in the few specimens in the office and had many questions to ask about them.

There was an average of 169 inquirers a day and our little office was badly crowded throughout the month. Larger quarters and more clerks are needed next year for if we allot three minutes to each of 169 visitors, one man's time is fully occupied for eight hours and a half.

A total of 431 pamphlets and 138 maps were sold.

A series of monthly bulletins on Flowers, Geology, Animals, and Birds, was prepared and placed at all Ranger Stations, camps, hotels, and other public places at the beginning of the month. A total of 34 sets were so placed and attracted a great deal of interest and discussion. The posted bulletins started a demand for extra copies and we accordingly had some printed and gave out 459 sets to parties calling for them.

IV. WORK IN PROGRESS.

(a) Construction of Physical Improvements.

The crew which completed the new public camp at Upper Basin began the construction of a permanent water system at that point, designed to furnish an ample supply of first-class water for all future needs of the public camp and for the Yellowstone Park Camps Company. A concrete dam about 15 feet long was built across a small, clear stream of pure water, about a mile from

Old Faithful Geyser in a northeasterly direction, forming a small reservoir from which the water is piped for 3000 feet in a 2 $\frac{1}{2}$ inch galvanized iron pipe, where the pipe branches into two 1 $\frac{1}{2}$ inch mains, each 2500 feet long, one leading to the public camp, the other to the Old Faithful Camp of the Camps Company. This work was about 90 per cent completed during the month of August and will be finished this month. The expense will be partially borne by the Camps Company.

The telephone line crew, after finishing the overhauling of the Tower Falls-Mammoth line mentioned heretofore, begun the important work of remodeling the Norris-Mammoth line so as to make two metallic circuits to take the place of the two grounded circuits now in use and to avoid the strong induction between the two lines which renders it almost impossible to talk to both sides of the park at once. To accomplish this, two additional wires are being strung on the same poles, which are already provided with cross-arms and brackets. About 5 miles, from Norris towards Mammoth, had been completed at the end of the month, and it is anticipated that the work can be completed before the end of September. Considerable of the wire being used on this work has been reclaimed from lines that have been abandoned.

The crew which was engaged in the construction of concrete and formation sidewalks in the Black Sand Basin completed the work in that section and transferred operations to the Upper Geyser Basin. About 700 lineal feet of sidewalk was constructed in the Black Sand Basin during the month.

The new road around the Lake Hotel and store has been graded up and partly graveled, and the fill in front of the Lake Hotel has been widened and capped with gravel hauled from the pit near Mud Geyser. The 120 H.P. tractor and train of 6 four yard wagons had to be abandoned as a means of hauling gravel. A new pit near the Lake Hotel was opened, and part of the sand

was screened out to make a suitable road gravel. At the present time the road is 70% completed.

The Dunraven Pass work is progressing well for the small crew employed. One half mile of road through solid rock was completed this month. One fill of 3500 cu. yds., another of 2500 cu. yds., and one of 1800 cu. yds., have been completed.

A small trail crew with pack train, after completing the clearing out of the Frost Lake to Turbid Lake Trail on August 12th, began the construction of a new trail from Turbid Lake to the east boundary of the park via Jones Pass, and to the end of August had completed about twelve miles of the sixteen miles, leaving about four miles to complete this month.

(b) Maintenance and Repair of Physical Improvements.

One haying crew consisting of 17 men and 12 teams worked throughout the month at the Buffalo Farm at Lamar River and succeeded in putting up about 350 tons of hay in stack. This work will be finished during the present month. Bad weather held the work back and made it more expensive.

Another haying crew of 14 men with seven teams put in the whole month putting up wild hay on Slough Creek for next winter's use of the wild animals and the tame buffalo herd and succeeded in getting about 225 tons of good hay stacked. This work is also incomplete.

A third and smaller crew, consisting of ten men and six teams, has worked since August 11th putting up wild hay at Yanceys near Tower Falls Station, for use of wild animals and for wintering saddle and work horses. About 60 tons have been stacked and the work is still in progress.

Rangers Anderson and Winn, at Soda Butte Station, cut and stacked about twenty tons of excellent hay at their station for next winter's use.

A small maintenance crew was stationed

at Mammoth. They cared for the roads in that vicinity and to Gardiner. Some of the streets at Mammoth were graveled. The two bridges over the Gardiner River between Mammoth and Gardiner were redecked. Small maintenance crews were also stationed at Beaver Lake, Gibbon Meadows, Madison Junction, Excelsior Geyser, Spring Creek, and West Thumb. Each crew was given charge of a section of road to maintain. New gravel was placed in many sections, new culverts constructed, and old ones repaired.

A small maintenance crew worked over the South Entrance road and the road in the South Forest Reserve to Pacific Creek, performing general repair work to the roads, culverts, and bridges.

The Gardiner Road and all roads on the "loop" were sprinkled, except that portion over the divide where no water is available for that purpose.

All roads throughout the Park where water was available were sprinkled. Small crews of two men and one team were stationed at the sprinkler camps and road repairs were made by these small crews. During the month of August the travel was so heavy that these small crews were unable to keep the roads in good condition, so it was found necessary for the larger crews to go over the roads with graders and fill most of the holes, which seemed to develop faster than the smaller crews could handle. The small crew of two, and part of the time three men, stationed at Virginia Meadows, have done very good work on the Norris to Canyon road.

The Canyon to Lake road has been in very bad condition all season and yet more work has been done on this section of the road than any other in the park. Soft places keep developing so that this road required constant work from the crew at the Canyon, the graveling crew at the Lake, and the small repair crew at Trout Creek.

The East Entrance road has been drained and shaped up by a small crew camped at Cub Creek. At the twelve mile post a sharp turn was replaced by a cut of 400 cubic yards, and the material used to raise a low section of the road which is always very bad in the spring and fall.

Two men and a team made necessary repairs to the sprinkling system during the month.

The three regular electricians kept the plant running throughout the month, twenty-four hours per day, and the Chief Electrician also did the necessary usual repairs to the power lines, supplied new lamps where needed, read meters, and superintended the work of a very small crew making alterations and extensions to the lighting system. The plant generated a total of 18,580 kilowatt hours of current. Of this 8,674 KWH were consumed by concessioners, 1,137 KWH by the street lighting system, and 8,769 KWH were consumed by government buildings, shops, and loss on the lines. The peak load for the month was 66 KW. The small crew referred to completed the street lighting circuit to Mammoth Camp, 1,200 feet, and also installed a pole line from the nearest point south of Capitol Hill to the cabin occupied by the ranger in charge of the tame herd of buffalo, 3,600 feet south, and put in the wire. A quantity of old wire connecting up the Gardiner Slide in the Gardiner Canyon, which is no longer of any use, was also reclaimed and saved for future patching and repairing.

Miscellaneous Improvement Work.

Two to four men were kept busy at Headquarters throughout the month, irrigating and watering the lawns, mowing them, and doing general cleaning up work. A man and team were kept busy at Headquarters keeping the public camp clean, and hauling wood for same, and a man was also kept busy constantly during the month at each of the big public camps at Upper Basin, Lake, and Canyon, on similar work there.

The remaining old ice house between

Mammoth Camp and the Hot Springs was torn down, such lumber as was serviceable was saved for future use, and the balance used for wood at the public camp.

The painter and one assistant devoted most of the time throughout the month to the work of making and placing new signs throughout the park for the guidance and information of travelers. Five days were consumed in painting the outside of the building used as a paint shop, and this work was nearly completed.

A considerable shop force was required to repair tools and equipment, including trucks and other motor vehicles, and a force of carpenters was employed building earth toilets for public camps, hay racks for use of hay crews, repairing and redecking bridges, etc.

Improvements by Concessioners.

The concessioners were too busy attending to the needs of travelers to do much in the line of improvements.

The Yellowstone Park Hotel Company continued work on the new dormitory under construction at the Canyon, finishing the shingle work, and the plumbing, wiring and heating is roughed in, and the work of lathing and plastering has begun.

The Yellowstone Park Camps Company had a few men working on the new buildings at Lake Camp, and also at Camp Roosevelt, and made a little progress at these two points.

The new gas filling station at Mammoth, finished in July by the Yellowstone Park Transportation Company, was put in operation during August. It is located near the Postoffice store, much more conveniently for tourists than were those at the store and the Transportation Company's garage, which it replaces for serving motorists with gasoline and oil.

Mr. C.A. Hamilton had a small force of men working on his new store building at Lake Outlet.

A party, in the employ of Robert I. McKay and under his permit, is still in the field making a survey of the proposed new road between Gardiner and Cooke.

V. PLANS OR PROPOSED WORK:

It is proposed to complete the walks on the formation at the Upper Basin; to complete the Dunraven Pass; widening and remaining five fills; to complete the road graveling at the Lake; to repair and make the fill at the dangerous turn at the Upper Falls at the Canyon; to improve the Slough Creek road; and if possible to place fine gravel on the Swan Lake Flats road.

It is also proposed to repair showshoe cabins at Sportsman Lake, Grayling, Buffalo Lake, the one on the west line between Buffalo Lake and West Yellowstone, and the one at Hellroaring, by repairing the dirt and windows so as to make them bear proof; to repair the cabin at Upper Yellowstone in the same manner, and also add to it so as to provide shelter for two rangers permanently if it is decided to establish that as a permanent winter station; also to build new cabins at Cascade Creek and Harebell Creek to take the place of old ones that are not habitable. Readjustment of details to ranger stations on a winter basis will be commenced during September, and most of the temporary rangers will be laid off before the end of the month.

The work of plowing additional land near the Buffalo Farm and seeding it to grass, proposed for August, was not begun and it is likely it will have to be given up for the present due to lack of funds. Most of the crews can be laid off before the end of September.

A small force of carpenters and other mechanics will begin the work of remodeling several of the old military buildings at Headquarters to provide bachelor quarters to take the place of the stone bachelor quarters, which are to be remodeled into an office, information bureau, and museum, to take the place of our present crowded office building. Other buildings will be remodeled for quarters for families.

The Hotel Company contemplates cutting logs at Upper Geyser Basin for building a much needed addition to the dining room of Old Faithful Inn, and will also commence the building operations if a satisfactory force of carpenters can be secured.

VI. POLICIES.

The policy of authorizing tourists to carry away shed elk horns, which are very plentiful in the park, was discontinued at the end of August. This practice, which has never before attracted any particular attention, has grown during the past season, due to the heavy travel and the fact that the winter was a hard one and the horns shed near the road where they were easily accessible, until it has attracted widespread attention and if continued is likely to cause unfavorable criticism and comment. ✓

VII. COST OF OPERATION.

The cost report showing expenditures for August, and for the fiscal year to include August 31st, will be transmitted as soon as practicable.

VIII. OTHER MATTERS OF INTEREST.

Wild Animals.

Towards the end of the month a few deer, antelope, and mountain sheep were seen frequently by tourists, usually along the road between Canyon and Mammoth via Tower Falls, or along the Soda Butte road. Elk were occasionally seen at a distance, but are still ranging high. Deer are seen most commonly as there are a few that are quite tame around most of the central points of interest. Forage abounds everywhere for these animals.

A most unusual occurrence was recorded on August 12th when nine cow elk appeared on the outside of the high wire fence on the park line about a mile west of Gardiner. Their presence was reported by Mr. Stohl, who owns a ranch at that point, and the next day he assisted Chief Ranger McBride to let down the fence and allow them to come back into the park.

These elk probably remained outside of the park last spring when most of those that went out into the National Forest returned.

The beavers and their houses and dams are a never ending source of interest and amusement for travelers.

The tame buffalo herd grazed most of the month on Mount Norris, but was brought down to the valley of Lamar River two or three times during the month where they could be viewed by special parties who went out to see them. One of the bulls, an eight year old, was found dead on the bank of Lamar River on August 17th. Cause of death could not be determined. The robe was worthless, but the head will be saved as a specimen.

Fishes.

Fishing was good and many tourists, especially those with their own motor cars who were camping out, indulged in this sport. Those who were content to fish close to the roads where the streams, on account of their accessibility, are constantly whipped by motorists, usually had also to be content with small catches of trout, or none at all; but for those who could spare the time to make longer trips on foot or by saddle horse to streams that are visited by but few, success was almost a certainty and most of them were able to bag the limit of fine trout. The fishing was especially good in Lamar River, Slough Creek, and Yellowstone River in the vicinity of Tower Falls.

Yellowstone Park has been advertised as a resort where fishing for trout is excellent, and this has been one of the incentives for those who are tempted to stop over for a few days when making the sight-seeing tour. Automobiles and excellent roads have made many of the best fishing grounds in streams and lakes easily accessible. Travel to the park doubled last year and has again increased this season by about 29 per cent. This increased demand for good fishing made it necessary to increase the supply, and this condition has been met by a broad cooperative policy of planting on the part of the

Park Service and the United States Fish Commission. The Yellowstone Park Camps Company has also taken a keen interest in this work, and has given considerable assistance in the matter of transportation of fish to the waters in the vicinity of Camp Roosevelt. The decision to plant annually many times the number of young trout fry in park waters that have ever before been planted has been carried into effect, and plants were made during August as follows:

Eastern Brook Trout:

August 21st, 10,000 Eastern Brook Trout Fingerlings were received from a shipment furnished by the United States Fish Hatchery at Bozeman and planted one-half in Nez Perce Creek in Lower Geyser Basin, and the other half in the Upper Firehole River, near Lone Star Geyser. These trout were shipped at the request of the Supervisor of the Absaroka National Forest, Livingston, Montana, who at first intended to plant them outside of the park in Buffalo Creek, which enters the park lower down and empties into Slough Creek. Upon my representation that it would disrupt our plans to confine the planting of fish in Slough Creek and tributaries to native trout if other varieties were planted there, and my assurance that we would stock Buffalo Creek plentifully with native trout near the park line, he readily consented to my planting the brook trout in waters which already were stocked with this variety.

Rainbow Trout:

On August 27th, 20,000 Rainbow Trout fry were received from the United States Hatchery at Bozeman, Montana, and planted in Gibbon River, in Gibbon Meadows.

Blackspotted Trout:

The most extensive planting, however, has been of the native trout fry supplied from the hatchery located near the outlet of Yellowstone Lake. This variety was planted as follows:

* Waters previously barren.

Fish had to be planted with pack train.

<u>Location</u>	<u>Number</u>
* Bear Creek, in vicinity of East Road,	4,000
# Cub Creek, in vicinity of East Road,	3,000
Tributary to Sylvan Lake (East of Lake),	6,000
Lake Eleanor,	4,500
Middle Creek - near 3 mile post,	10,000
Middle Creek - near 2 mile post,	7,000
Middle Creek - near 1 mile post,	7,000
Middle Creek - near station,	6,000
# Crow Creek - near Park boundary,	5,000
Delacy Creek, in vicinity of road,	24,000
#* Moose Creek - about 3½ miles from outlet,	24,000
# In tributary stream, outlet of Shoshone	
Lake (near outlet),	20,000
Aster Creek, in vicinity of 12 mile	
post, West Thumb,	20,000
Tributary streams of Lewis River - near	
9 mile post, West Thumb,	30,000
Crawfish Creek - west of road and above	
falls (above falls, barren),	12,000
#* Beula Lake,	7,000
#* Falls River - near forks, vicinity	
Beula Lake,	14,000
* Falls River - near Cascade Creek and	
vicinity of Snowshoe Cabin,	14,000
* Falls River - north of 3 and 4 mile	
post and east of Terrace Falls,	30,000
*# Falls River, in vicinity of 2 mile	
post west (Calfee Creek),	15,000
* Cascade Creek - Tributary to Falls	
River near 2 mile post,	30,000
# Proposition Creek, north of Birch Hills,	10,000
# Mountain Ash Creek - vicinity of Union	
Falls,	20,000
# Tributary to Falls River - near Bechler	
River,	7,000
# Boundary Creek - about 2½ miles from	
outlet,	14,000
# Boundary Creek - north of Falls,	14,000
# Tributary to Robinson Creek - vicinity	
of 13 mile Post, West Boundary,	7,000
Slough Creek, above rapids,	50,400
Lamar River, above Buffalo Farm,	30,000
Soda Butte Creek, near north east entrance,	87,000
# Cache Creek,	63,000
# Buffalo Creek, near Park line,	63,000
Total native trout planted during August,	657,900
Losses incurred in transit,	21,500
Total number of fish handled, (Native Trout)	636,400

This work is not yet completed. A few more loads are to be planted during September.

Except for a few loads hauled by the Yellowstone Park Camps Company from the Lake Outlet to Tower Falls and vicinity, these fish were all transported by our trucks. Many of them were planted in waters so remote as to require the services of a pack train to take them to their final destination, and the packing was all done by our ranger force. The distances that the fish had to be transported sometimes necessitated that they be held over night, and this was very successfully done and with but little loss by using troughs furnished by the Fish Hatchery for the purpose.

The losses in handling and transporting were comparatively light, amounting to about five per cent of the number handled, which is very reasonable considering the fact that they sometimes had to be handled over two or three times before they finally reached their destination, and some of the days were exceptionally warm.

Seasonal Changes.

Botanical:

The wonderful growth of flowers that characterized June and July continued throughout the early part of August, but heavy frosts during the last week stopped all further growth. The grasses and forage crops have cured on the root so that now there is a wonderful crop of hay standing in all parts of the Park.

Wild geranium leaves turned red during the last five days and dog-bane turned yellow.

Birds:

The last broad-tail humming Bird seen at Upper Geyser Basin was on the 25th; the first Wilson snipe to come down from the north was seen on the 26th; the last western flycatcher on the 27th; the last cliff swallow on the 28th.

At the end of the month there were still nine young ospreys on four nests along the Yellow-

stone Canyon; white-crowned sparrows, pink-sided juncos, Brewer blackbirds, and mountain blue-birds were flocking ready to migrate; most of the tree swallows have already left; great numbers of mallards and other ducks and geese are daily coming down from the north.

Animals:

A weasel still in the red coat on the 29th. The last Kennicott ground squirrel was seen on the 31st. At the end of the month: the white-tail deer were still in the red coat, but the mule deer had changed to the winter gray; woodchucks were very busy since August 20th collecting hay for their winter beds; pine squirrels were very busy collecting fir cones; antlers on deer and elk were full grown but still "in velvet".

What seasonal changes there are, are about normal.

Arrests and Violations of Law.

The following is a list of arrests made during the month and action taken in each case:

<u>Name</u>	<u>Charge</u>	<u>Arresting Ranger</u>	<u>Punishment</u>
. Naughton	Leaving fire	Tom Meek	\$10 and costs
hur Manden	Defacing format'n	W.M. Bishop	\$10 and costs
rge Herringfield	Speeding	Tom Meek	\$25 and costs
Keith	Defacing format'n	Chas. Watkins	\$20 and costs
. Howell	Defacing format'n	Rodger Goode	\$ 5 and costs
Martin & C. Huych	Speeding	Court Dewing	\$25 and costs
. Kasai	Defacing format'n	Jas. Dupuis	Reprimand by Com.
ver Kimball			
Garet McKinney	Defacing format'n	Chas. Smith	\$40 and costs
Powell			(\$15 rescinded)
ry Otting	" "	Chas. Smith	\$10 and costs
Dolsted	" "	Chas. Smith	\$40 and costs
le Fletcher			
. Davis	Speeding	R. Sprinkle	\$20 and costs
. Lambert	"	R. Sprinkle	\$25 and costs
. Smith	Defacing format'n	R. Ide	\$10 and costs
. Dutton	" "	R. Ide	\$25 and costs

<u>e</u>	<u>Charge</u>	<u>Arresting Ranger</u>	<u>Punishment</u>
Smith	Leaving fire	R. Sprinkle	\$10 and costs
Brown	Defacing format'n	R. Goode	\$20 and costs
rown	" "	Wm. Troutman	\$35 and costs
Cleary	" "	Wm. Troutman	\$20 and costs
Gilloy	" "	Wm. Troutman	\$10 and costs
'Neill	Leaving fire	F. Knight	\$10 and costs
auhel	Defacing format'n	F. Knight	\$ 1 and costs
inquist			
Atkin	Leaving fire	F. Knight	Reprimanded
Underwood			
Underwood	Defacing format'n	F. Townsend	\$10 and costs
aylor	Speeding	E. Matthews	\$20 and costs
Byrd	"	E. Matthews	\$25 and costs
Beveridge	Leaving fire	F. Townsend	\$10 and costs
Foss	Speeding	H. Mathews	\$25 and costs
Benton	"	L.D. Nichols	Reprimanded
later	Breaking format'n	C. Watkins	\$10 and costs
Erickson	Defacing format'n	C.B. Dewing	\$20 and costs
Smith	Breaking format'n	N. Howard	\$1 and costs
aBelle	Obnoxious conduct	C.J. Smith	\$75 and costs
Matson			
allis			
untoon			

Accidents and Casualties.

A Chandler car going towards Upper Basin left the road at a sharp turn at Excelsior Geyser about 3:30 A.M., August 6, 1920, turned over twice and landed right side up. There were six people in the car and nobody injured beyond a few scratches.

The car was being driven by J.J. Marton, of Cleveland, Ohio, who borrowed it from the owner, Joe Coy, of Deerlodge, Mont., to whom he had sold the car. Marton's car was broken and he was waiting at Upper Basin for parts when he borrowed Coy's car.

The car was borrowed the evening of August 5th, and about 8:30 Marton, C.C. Huyck who was with the same party waiting over at Old Faithful, the head bellboy at Old Faithful Inn, one girl from Old Faithful Camp, and two girls from the hotel help, started around the park, and at about 3:30 when the accident occurred, they were

at Excelsior, having been via Norris to Mammoth in the meantime.

They admitted that they were exceeding the speed limit most of the time. The driver was tried for speeding and paid his fine.

On August 18th, Yellowstone Park Transportation Company's Car No. 111, nearing Madison Junction on road from Norris, met the Company's Car No. 214 going towards Norris. No. 111 misjudged the speed of No. 214 and thought he had room to pass, and in attempting to avoid a rut, he caused a collision. Rev. S. A. Gavin, on the left hand rear seat of Car No. 111 either had his head out of the car or was swayed out to one side and received a severe blow on the head.

He was still in doubtful mental state when he was taken home by The Very Rev. E.A. Martin, O.P., of Holy Rosary Church, Minneapolis, Minn., who came for him September 3rd and left September 7th.

A Baby Overland Four Cylinder Car owned by C.L. Huffman, of Wichita, Kansas, driven by his son, left the road about a mile west of the Buffalo Farm and turned over. Mr. Huffman's shoulder was fractured.

On August 21st, Henry Bayer was injured, in an accident, to the extent that he sustained a punctured lung and numerous abrasions about the body.

Mr. Bayer was in company with Mr. & Mrs. Ed Schulte in Cadillac Car, 1920 Wyoming issue, No. 93, all residents of Casper, Wyo., while on the road to the Cody entrance, one mile and a half east of the Lake Ranger station. Mrs. Schulte was driving the car at a moderate rate of speed when the accident occurred.

It was claimed by witnesses to the accident that Mrs. Schulte turned to the side of the road to allow another car to pass, going in the same

direction. In so doing she ran off the bank in her excitement, turning the car completely over.

An investigation was instigated at once and Ranger Winess reported that in his opinion the passing party was in no way responsible for the accident.

Sylvan Pass was notified by Ranger Winess to reprimand the driver of the car.

The injured man was attended by private doctor visiting Lake Public Auto Camp, at request of Ranger Winess.

Natural Phenomena.

At Norris Geyser Basin, the Monarch Geyser and the Bath Tub continued totally inactive.

At the Lower Geyser Basin, the Fountain and the Great Fountain Geysers continued to play quite regularly at four hour and ten hour periods respectively.

At the Upper Geyser Basin, the interval of Old Faithful remains sixty-three minutes as in July. The Daisy Geyser lengthened a trifle to an average of ninety minutes between eruptions. The Giant continued to play on about a seven day interval. The Grand Geyser seems to have established eleven hours as its interval of eruption and is playing very regularly. The Riverside Geyser is still playing about every seven hours.

On August 24th, the Giantess started a wonderfully powerful eruption at 3:00 A.M. and played until 4:25 P.M. on August 25th, an eruption of nearly thirty-seven and one-half hours and the longest I have ever recorded. The eruption was a beautiful one. The Geyser gave many evidences of its power and threw the water to great height. The Beehive did not follow with its eruptions, thus tending to confirm a suspicion in my mind that where the Giantess gives a fine eruption, there is

not power enough left for a display of the Beehive, but this suspicion needs further corroboration before being accepted as a fact.

Distinguished Visitors.

Honorable Stephen T. Mather, Director of National Parks, made an official trip of inspection to the park, arriving via the northern entrance at noon August 19th. He and party spent the night at Canyon Hotel and went out the eastern entrance on the 20th, leaving Cody the morning of August 21st. ✓

Governor Robert D. Carey, of Wyoming, and party, arrived at Canyon Hotel via the East entrance on August 23rd, spent the following night at Old Faithful Inn, and left via the southern entrance into Jackson Hole on August 25th. He was accompanied by Commissioner of Immigration C.S. Mill. The party returned through the park from Jackson Hole to Cody, spending the night of August 28th at Lake Hotel. ✓ ✓

General Hunter Liggett, U.S. Army, entered on August 2nd via Gardiner and left the park via West Yellowstone on August 5th. ✓

Colonel Franklin D'Olier, Commander of the American Legion, arrived via Gardiner on August 16th and left via the same route on August 19th. ✓

Hon. Carl W. Riddick, Member of Congress from Montana, entered at Gardiner on August 14th and left via the same gateway on the 17th. ✓

Mr. Herbert Corey, writer for the Saturday Evening Post, entered the park on August 29th and left September 7th. ✓

Hon. Addison T. Smith, Member of Congress from Idaho, came in at the West entrance on August 10th and left via the same route on August 12th. ✓

Colonel Lester E. Jones, Director, Coast and Geodetic Survey, of Washington, D.C., arrived via Gardiner August 19th, spent ten days in camp on Slough Creek, made the park trip and left via Cody ✓ ✓

on September 2nd. ✓

General John A. Johnston, U.S. Army, ✓
who arrived in the park on July 17th, left on
August 25th. ✓

Mr. Emerson Hough, of Chicago, who ✓
arrived in the park on July 6th, left on August
23rd. ✓

Vice President C.G. Burnham, of the
Burlington Route, was a visitor in the park
during the month.

Mr. A. M. Cleland, General Passenger
Agent, Northern Pacific Railway Company, arrived
via Gardiner August 19th and left on the 24th.

Mr. H. H. Hunkins, Manager Bureau of
Service, National Parks and Monuments, Chicago
and Northwestern and Northern Pacific Railroads,
arrived at West Yellowstone on August 25th, came
to Mammoth Hot Springs, and returned the same day
via the same entrance.

A special party of railroad passenger
traffic officials entered the park at West Yellow-
stone on August 15th, and left via the same route
August 17th. The party consisted of the following:

Mr. D. S. Spencer, General Passenger Agt.,
Oregon Short Line R.R., wife, and son David.
Mr. A. L. Craig, General Passenger Agent,
Union Pacific Railroad Co., and wife.
Mr. Marius De Brabant, Assistant General Traf-
fic Manager, Los Angeles and Salt Lake
R.R., and sister.
Mr. Wagner, Advertising Agent, Union Pacific
Railroad Company.
Mr. Thomas Peck, General Passenger Agent, Los
Angeles and Salt Lake Railroad, and sister.

Other Special Visitors.

Mr. George S. Rice, Chief Mining Engineer, U.
S. Bureau of Mines, entered at Gardiner August 16th, and
left via the same route on the 20th. Mr. Rice while here
made a careful investigation and report on our Mt. Everts
coal mine, and will make a further report in regard to
its possibilities.

Judge C. B. Meiseman, General Counsel, Pennsylvania Railroad, entered the park via the Gardiner entrance on August 7th, and left via West Yellowstone on August 11th.

Mr. John C. Hoyt, Water Resources Branch, U. S. Geological Survey, entered at West Yellowstone on August 1st and left via Gardiner on August 3d.

Mr. Olin D. Wheeler, Advertising Agent, Northern Pacific Railway Co., entered via Gardiner on August 27th, and is still in the park.

Colonel F. T. Arnold, U. S. Army, who was Commanding Officer and Quartermaster at Fort Yellowstone when it was abandoned in the fall of 1916, visited the park August 16th to 27th.

Doctor A. E. Douglas, of the University of Arizona, made a short visit beginning August 18th.

Mr. Robert B. Honeyman, a prominent business man of New York City, visited the park during August.

Hon. Cato Sells, United States Commissioner of Indian Affairs, entered from the south on August 16th, and left at Gardiner on the 18th.

Mr. Wm. C. Gregg, of Hackensack, N. J., and two daughters, came in via the northern entrance on August 8th, and are still in the park. Mr. Gregg is making an extended trip to the southwest corner, and the southern part of the park. He has made a splendid collection of original photographs of the beautiful scenery in the Bechler and Falls River country, and is collecting other data which he will use to combat legislation which will directly or indirectly tend to commercialize the National Parks. ✓

"Colonel" R. E. Gardner, of Flagstaff, Arizona, entered the park on foot, leading his faithful donkey which carries his supplies, via the Northern entrance on August 25, and spent several days at Mammoth. He was an enlisted man in the army with General Howard's command when it came through the park on the trail of the Nez Perce Indians in 1877. He came all the way from Arizona, and intended making the park trip, but found the altitude beyond Mammoth too great for his advanced years.

Boy Scouts.

Four different parties of Boy Scouts came to the park during the month.

The Boy Scouts of Ogden, Utah, 84 in number with Doctor Plummer and a scoutmaster in charge, came in at the west entrance on July 29th, and left the same route on August 10th.

Twelve Boy Scouts from Ottumwa, Iowa, under Scoutmaster A. B. Burgess, entered via Gardiner on August 16th.

Five Boy Scouts of New York, N.Y., on a trans-continental trip, came in at West Yellowstone on August 20, and spent several days in the park.

Troop 5, Logan, Utah Boy Scouts, 22 in party, entered the park at West Yellowstone for a 5-day trip, on August 21st, lead by Scoutmaster B. Hill Jr.

Every encouragement has been given to parties of Boy Scouts who proposed to visit the park, and special attention has been given to such parties as have come. Usually a ranger has been detailed to accompany them, and they were assisted in the matter of truck transportation, selection of suitable camp sites, etc. It happened that it was convenient to have the last three parties mentioned above meet and camp together several times, and this opportunity to get acquainted and compare notes added to the enjoyment of their trips.

Motion Pictures.

The following motion picture firms operated in the park during August, namely:

Mr. Leland J. Burrud, representing Sunset-Burrud Pictorial Co., of California, entered via Gardiner Aug. 28th and is still in the park.

L. M. Lewis, of Minneapolis, Minn., operated for a few days beginning August 19th, entering via Gardiner.

Mr. Norman McClintock, of 504 Amberson Ave., Pittsburgh, Pa., entered via Gardiner August 19, spent a few days at Mammoth making preparations, a few days more at Canyon photographing bears, and is now in the Upper Yellowstone country photographing moose, elk, and other wild animals.

Norval McGregor, representing Sacred Film Company, of Burbank, Calif., entered August 28, and left Aug. 30th for the Gallatin Valley. He expects to return to the park and finish his work later.

Miscellaneous.

Entertainments. Motion picture shows were held in the Post Exchange Auditorium every Saturday evening, and dances were held three evenings each week, under the management of the Park Curio Shop, for the amusement of park employees.

Religious Services. Episcopal service was held every Sunday in the Chapel, at 10:30 A. M. and 8:00 o'clock P.M., by Rev. J.F. Fritchard, of Emigrant, Montana. Early Mass was held in the chapel once during the month, by a Catholic Priest who was visiting the park as a tourist. These services were well advertised at camps, hotels and public camp grounds, and were well attended.

Half hour talks on the subject "How the Yellowstone Came to Be" were given daily by Mrs. Isabel Bassett Wasson, Park Ranger, at the hotel, the Mammoth Camp, and the public automobile camp at Mammoth Hot Springs. These talks were most interesting and many favorable comments on them were heard from tourists.

Copies of circulars and other publications issued from this office during August are enclosed for your information as follows:

Circulars 26 and 27, governing employees.

Press Notices emanating from this office.

Notes on Flowers, Geology, Animals, and Birds, for August, prepared monthly by Park Naturalist Skinner and posted for information of travelers at hotels, camps, stores, public automobile camps, etc.

X. RECEIPTS AND REMITTANCES.

Report of monies due, collected, and transmitted,

together with money orders and drafts totaling \$110.00, the amount collected as shown by the report, is enclosed. Acknowledgment of the receipt of this amount is requested. This report has been corrected to modify several items which were not properly carried in preceding reports this fiscal year.

Cordially yours,

Horace M. Albright,
Superintendent.

Inclosures.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
Yellowstone Park, Wyo.

September 2, 1920.

WEATHER CONDITIONS--MAMMOTH HOT SPRINGS.

AUGUST, 1920.

Temperature: Monthly mean, 59.0° . Departure, -1.9° . First half of month nearly normal. Cool period 18th to 20th with heavy frost on the 19th. Temperature was unusually low on the last four days of the month. Killing frost occurred on the 31st, with a minimum temperature of 29° , which with the exception of 23° in 1910, is the lowest August temperature in 33 years' record.

Precipitation: Total, 0.87. Departure, -0.15. The precipitation occurred in the form of light thundershowers of which there were 14, the greatest number of record for August.

Windfall: None.

Wind: Total miles somewhat less than normal, but the maximum velocity of 40 miles per hour on the 2d and 24th has been exceeded but three times in August since the record began in 1904.

Sunshine: Percentage of possible, 73, or about normal.

E. H. Fletcher,
Observer.

HUGH KIRK
ARCHITECT
HELENA, MONTANA

September 4, 1920

Mr. Chester A. Lindsay,
Yellowstone Park, Wyoming.

Dear Mr. Lindsay:-

I promised to give you the conditions of the work on the several buildings in the Park when I was there last week, but left unexpectedly early that morning and failed to see you.

✓ The filling station at Basin is finished except for the tank and connections. The porte^{co}chere on the Lake Hotel is completed. The shingle work on the dormitory at Canyon is completed; also the wiring, plumbing and heating is roughed in and the lathers and plasterers are working. This work should be completed in another month.

At Old Faithful we expect to start the cutting of the logs for the addition to the dining room by the middle of this month and if we can obtain a carpenter crew and sufficient force, we will put up the addition this Fall.

Hoping this information may be of some use to you, I remain,

Yours very truly,

Hugh Kirk.

W. Cleland, G. R. F.

Mr. Proc. Arrived Aug. 19th
left 24th.

T. H. Jenkins, Manager
and Secy. Nat Parks
Comm., C + N. IN and
P. R. R. arrived West
Houston 25th, came
Macon and
turned same day via
no entrance.

Arrived John A. Johnston
to arrive in March
24 17th, left Aug 25th.

1
Hunt & Riggert
arrived Aug 2nd sardine
at West Yellowstone 5th.

arrived 1st Aug who
arrived July 6th left
guest 2nd.

Franklin D'Olier,
arrived 7th the
arrived 16th and left
19th. In and out
sardine:

27

John C. Hayt.

Walter Vernon Brainer

H. S. George & Gurney

✓
1-3rd. In N. Y.

Gardiner

Gardiner Call W. Riddick

✓
Gardiner Aug 7 7 14
" 10 1 15

1st
Aug 17th

Aug
P. R. Office
Don't

Aug 29

✓
Pres. Burnham

7 Burlington Route

✓
Corey, Gurney

ev S. Rice, Chief Mining
near, U.S. Bureau of Mines.
Gardiner Aug. 16. ours
H.

Edge A. B. Heiserman,
Coal Course, Pennsylvania
R. La Aug 7. ours
H. In Gardiner,
N. Y.

now for Mr. Lindley.

monthly report:

Gov. R. D. Carey & my o.
and Canyon Hotel Aug. 23rd,
at night 24th at old
withful, went there to
about 1000. ^{Commissioner} Immigration
D. S. Hall with him
at Lake Placid Aug 28

Director Walter arrived
since noon 1912. Spear
1912 at Canyon Hotel
Cody morning 21st.

Jones, Director Co.
with Drury arrived
and will leave Cody
for 2.

and our West Yellowstone
7.8 our 1002
~~new agent~~

M., D. S. Spencer 7
reg. Shoshone, wife
son David.

7. A. L. Craig 7
Union Pac. + wife

2. Thos. Beck, 7
Angels and Salt Lake R.R.
+ sister.

ius de Brabant,
Gen. Traffic Manager.
Angels + Salt Lake.

+ sister
Wagner, Advertising Agent
U. P.

Sept. 1, 1920.

REPORT ON NATURAL PHENOMENA.

To: Chester A. Lindsley, Asst. Supt.,

From: H.P. Skinner, Park Naturalist.

At Norris Geyser Basin, the Monarch Geyser and the Bath Tub continued totally inactive.

At the Lower Geyser Basin, the Fountain and the Great Fountain Geysers continued to play quite regularly at 4-hour and 10-hour periods respectively.

At the Upper Geyser Basin. The interval of Old Faithful remains 63 minutes as in July. The Daisy Geyser lengthened a trifle to an average of 90 minutes between eruptions. The Giant continued to play on about a seven day interval. The Grand Geyser seems to have established eleven hours as its interval of eruption and is playing very regularly. The Riverside Geyser is still playing about every seven hours.

On August 7th, the Lioness geyser and the two Cubs played nicely beginning at 7 A.M. This is the first recorded eruption of these geysers since 1914.

On August 24th, the Giantess started a wonderfully powerful eruption at 3 A.M. and played until 4:25 P.M. on Aug 25th: an eruption of nearly 37½ hours and the longest I have ever recorded. The eruption was a beautiful one, the geyser gave many evidences of its power and threw the water to great height. The Beehive did not follow with its eruptions, thus tending to confirm a suspicion in my mind that where the Giantess gives a fine eruption there is not power enough left for a display of the Beehive. But this suspicion needs further corroboration before being accepted as a fact.

September 1, 1920.

REPORT on SEASONAL CHANGES.

To: Chester A. Lindeloy, Asst. Supt.,

From: M.P. Skinner, Park Naturalist.

Botanical: The wonderful growth of flowers that characterized June and July, continued thruout the early part of August but heavy frosts during the last week stopped all further growth. The grasses and forage crops have cured on the root so that now there is a wonderful crop hay standing in all parts of the Park.

Wild geranium leaves turned red during last five days and dog-bane turned yellow.

Birds: The last broad-tail hummingbird seen at Upper Geyser Basin on the 25th; the first Wilson snipe to come down from the north was seen on the 26th; the last western flycatcher on the 27th; last cliff swallow on the 28th.

At the end of the month there were still nine young ospreys on four nests along the Yellowstone Canyon; white-crowned sparrows, pink-sided juncos, Brewer blackbirds, and mountain bluebirds were flocking ready to migrate; most of the tree swallows have already left; great numbers of mallards and other ducks, and geese are daily coming down from the north.

Animals: A weasel still in the red coat on the 29th. The last Kennicott ground squirrel seen on the 31st. At the end of the month: the white-tail deer were still in the red coat but the mule deer had changed to the winter gray; woodchucks were very busy since Aug 20th collecting hay for their winter beds; pine squirrels were very busy collecting fir cones; antlers on deer and elk were full grown but still "in velvet".

What seasonal changes there are, are about normal.

September 1, 1920.

REPORT ON INFORMATION SERVICE.

To: Chester A. Lindsley, Asst. Supt.,

From: H.P. Skinner, Park Naturalist.

A total of 5252 inquirers visited the Information Bureau during the month of August. Two hundred and fifty (250) of these visitors asked specifically for the museum (the falling off in numbers from last month is due to the fact that we discouraged the guides and others from mentioning a museum until we were better prepared). Virtually all the visitors were interested in the few specimens in the office, and had many questions to ask about them.

There was an average of 169 inquirers a day, and our little office was badly crowded thruout the month. Larger quarters and more clerks are needed next year for if we allot three minutes to each of 169 visitors, one man's time is fully occupied for eight hours and a half !

A total of 431 pamphlets and 138 maps were sold.

A series of monthly bulletins on Flowers, Geology, Animals, and Birds, was prepared and placed at all Ranger Stations, camps, hotels, and other public places at the beginning of the month. A total of 34 sets were so placed and attracted a great deal of interest and discussion. The posted bulletins started a demand for extra copies and we accordingly had some printed and gave out 450 sets to parties calling for them.

inter Report for month of August, 1920.

1 Shop, Misc. signs.

2 Parks, placing elevation, divide and
3
4
5 misc. signs

6 Shop, No camping here signs

7 " " Dump Refuse here "

8 " " Men & Women Toilet "

9 " " " " " "

10 " " Gas Tanks. " "

11 " " Misc. Signs

12 " " " "

13 " " " "

14 " " Gas Tanks

15 " " Misc. Signs

16 " " " "

17 On leave.

18 Shop, Misc. Signs

19 " " Painting outside of.

20 " " " "

21 " " " "

22 " " Painting, Elk Horn Signs

23 " " Painting Chief Ranger and

24 " " Information signs for office

25 " " Painting outside of

26 " " Misc. Signs

27 " " Painting Outside of.

28 " " Painting outside of, and hind shield for D. Tripp.

A. C. Humann.

Yellowstone Park 19
Sep. 1. 1920

Mr. M. Albright,
Superintendent

Sir:-

The following is
list of work done during the month of
Aug. 1920 in connection with the lighting
system.

The removal of all remaining line
wire, poles, and fittings from old power
line leading from Mammoth to three miles
down Gardiner canyon. all poles taken from
this have been cleaned and draw-shaven for
use on ^{new} lines.

The installation of 1200 ft of pole line and
temporary line wire and st. light fixtures from
junction of roads below Mr. Hills quarters to old
lume at top of hill.

The installation of 3600 ft of pole line and
line wire from old Q.M. Baracks to Buffalo
Keepers quarters

The installation of 200 ft of pole line and
wiring for lights at ^{Rehoboth} Gardiner entrance and checking
station

Geo. P. Younger
Electrician

Aug- 31

1920

Monthly report of Electric Power,
Production for month ended Aug. 31-1920

Total generated.	✓ 18580 KwH
Consumed by Concessioners	✓ 8674 " " "
Consumed by St. Lighting.	✓ 1137 " " "
Consumed by Government buildings	✓ 8769 " " "
Losses, and lines.	✓ 66 Kw.
Peak load for month	

Geo. Springer,
Electrician,

TRAVEL DURING THE MONTH OF
AUGUST 1920
BY TRAIN GOING CAMP AND HO-
TELS WITH TRANSPORTA-
TION COMPANY

	HOTELS	CAMPS	TOTALS
GARDINER	2254	1937	4191
YELLOWSTONE	3478	2242	5720
ODY	<u>885</u>	<u>1142</u>	<u>2027</u>
TOTALS	6617	5321	11938

Note:

The report received every morning from Miss Lee is just an estimate,
and this report is accurate as it is an actual count.

Chief Ranger's Office
By Hauseman

11938) 53210 (44
47752

54580

53210
56

260

12000
55

60000
60000

6000000

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

YELLOWSTONE NATIONAL PARK

YELLOWSTONE PARK, WYO.

THE SUPERINTENDENT

Tower Falls Station

August 20 1920

Fish transplanted (18) eighteen cans (2800) twentyeight hundred per can total number 50400. From Lake Fish Hatchery. Planted in Slough Creek one half mile above mouth of Buffalo Creek in Rocky canyon on August 20.

James N. Dupuis

Ranger in Charge Tower Falls Sta.

Data with No report for Jul
August 1920
" "

NAME	CHARGE	ARRESTING RANGER	PUNISHMENT
H. Naughton	leaving fire	Tom Meek	\$10 and costs
hur Manden	defacing format'n	W. M. Bishop	\$10 and costs
erge Herringfield	speeding	Tom Meek	\$25 and costs
Keith	defacing format'n	Chas. Watkins	\$20 and costs
E. Howell	defacing format'n	Rodger Goode	\$ 5 and costs
Martin & C. Huych	speeding	Court Dewing	\$25 and costs
H. Kasai	defacing format'n	Jas. Dupuis	Reprimand by Com.
ver Kimball			
garet McKinney	defacing format'n	Chas. Smith	\$40 and costs
Powell			(\$15 recinded)
ry Otting	defacing format'n	Chas. Smith	\$10 and costs
Dolsted	defacing formation	Chas Smith	\$40 and costs
le Fletcher			
G. Davis	speeding	R. Sprinkle	\$20 and costs
R. Lambert	speeding	R. Sprinkle	\$25 and costs
T. Smith	defacing format'n	R. Ide	\$10 and costs
W. Dutton	defacing format'n	R. Ide	\$25 and costs
G. Smith	leaving fire	R. Sprinkle	\$10 and costs
. Brown	defacing format'n	R. Goode	\$20 and costs
Brown			
F. Cleary	Defacing formation	Wm. Troutman	\$35 and costs
C. Gilloy	defacing formation	Wm. Troutman	\$20 and costs
O'Neill	defacing formation	Wm Troutman	\$10 and costs
Mauhel	leaving fire	F. Knight	\$10 and costs
Linguist	defacing formation	F. Knight	\$ 1 and costs
H. Atkin	leaving fire	F. Knight	Reprimanded
E. Underwood			
S. Underwood			
Taylor	defacing formation	F. Townsend	\$10 and costs
H. Byrd	speeding	E. Mathews	\$20 and costs
L. Beveridge	speeding	E. Mathews	\$25 and costs
T. Foss	leaving fire	F. Townsend	\$10 and costs
F. Benton	speeding	H. Mathews	\$25 and costs
Slater	speeding	L. D. Nichols	Reprimanded
S. Erickson	breaking formation	C. Watkins	\$10 and costs
A. Smith	defacing formation	C. B. Dewing	\$20 and costs
LaBelle	breaking formation	N. Howard	\$ 1 and costs
H. Matson	obnoxious conduct	C. J. Smith	\$75 and costs
Wallis			
Huntton			

Extra Copies

Other interesting statistics of the month's travel compared with 1919 are as follows:

LARGEST DAYS OF TRAVEL FOR PASSENGERS

<u>1920</u>	<u>1919</u>
August 10-Transpn Company 665	August 5- Transportn. Co. 507
August 9-Private Cars 1037	August 4- Private Cars 819

By entrances:

August 10-North Entrance 251
August 3-West Entrance 381
August 18-East Entrance 120

With Transportation Company

August 5-North Entrance 228
August 19-West Entrance 228
August 8-Eas tEntrance 75

By entrances:

August 8- North Entrance 322
August 17- West Entrance 350
August 5- East Entrance 434

Private Transportation

August 7-North Entrance 287
August 12-West Entrance 348
August 9- East Entrance 256

LARGEST DAYS OF TRAVEL FOR PAID AUTOMOBILES

All entrances:

August 9th 273	August 4th 209
----------------	----------------

By entrances:

August 8th North Entrance 94	August 7th North Entrance 79
August 17th West Entrance 88	August 12th West Entrance 94
August 4th East Entrance 122	August 5th East Entrance 70
August 7th South Entrance 31	August 15th South Entrance 17

LARGEST DAYS FOR TOTAL NUMBER PASSENGERS ENTERING

August 2d 1498	August 5th 1255
----------------	-----------------

During the month of August, 1920, 33,958 people entered the park as compared with 25,171 people entering during August, 1919, which is an increase of 8,787 people or about 34 percent increase.

During the month of August, 1920, 5,476 paid automobiles entered the park, as compared with 4,115 paid automobiles entering during August 1919, which is an increase of 1,361 or about 33 percent.

During the month of August, 1920, 12,301 people entered the park with the transportation company as compared with 8,477 people entering with the company during the same month in 1919, which is an increase of 3,824 people or about 45 percent.

The total travel for the season to include August 31 was 72,421 people as compared with 56,231 people for the same period in 1919, when the total season's travel went to 62,261. If this rate of increase continues, a total season's travel of over 80,000 people can be expected.

Following will be found a list of states with the number of paid and complimentary cars and the number of people in these cars entering the park during the month of August from the different states.:

COMPARATIVE TRAVEL STATISTICS FOR YELLOWSTONE PARK DURING 1919 & 1920
TO INCLUDE AUGUST 31st.

P A S S E N G E R S

1 9 2 0

	North	West	East	South	Total
Train Travel	8917	14176	3959		27052
Motor Vehicles	13484	13972	14247	2977	44680
Other transportation	451	189	73	16	689
TOTALS	22812	28337	18279	2993	72421

1 9 1 9

	North	West	East	South	Total
Train Travel	7093	8171	2777		18041
Motor Vehicles	11554	13795	9633	2274	37256
Other Transportation	703	119	72	40	934
TOTALS	19350	22085	12482	2314	56231

1 9 2 0

	North	West	East	South	Total
Increase in number of Tourists over season 1919-----	3462	6252	5797	679	16190

M O T O R V E H I C L E S

	North	West	East	South	Total
Season of 1920	3781	3766	4012	786	12345
Season of 1919	3181	3586	2648	588	10003
Increase in number of motor vehicles over 1919-----	500	180	1364	198	2342

C R O

STATISTICS

FOR TRAVEL FROM JUNE 15th to AUGUST 16th, 1920 & 1920

						(BY TRAIN)					
1919	North	West	East	Total		1920	North	West	East	Total	
June	610	1764	141	2515		June	1344	2033	255	3632	
July	3042	2897	1110	7049		July	34999	6047	1623	11119	
August	1960	1766	839	4565		August	2203	3290	1081	6574	
Totals	5612	6427	2090	14129	(PRIVATE)	Totals	6996	11370	2959	21325	
1919	North	West	East	South	Total	1920	North	West	East	South	Total
June	1537	1637	747	144	4065	June	1639	1117	882	17	3555
July	4955	6527	4394	1165	17041	July	5977	6545	6268	1100	19890
August	3015	3519	2771	549	9854	August	3288	3752	4402	1082	12624
Totals	9507	11683	7912	1858	30960	Totals	10804	11414	11562	2139	35969

GRAND TOTAL FOR TRAIN AND PRIVATE

45089

GRAND TOTALS FOR TRAIN AND PRIVATE

57294

Engineers Report

General outline of physical
improvements in the Western and
Thompson sections during month
August.

Small maintenance crew was
stationed at Mammoth, they cared
the roads in that vicinity and
Gardiner. Some of the streets at
Mammoth were gravelled. The two
bridges over the Gardiner between
Mammoth and Gardiner were redecked.
Small maintenance crews were also
stationed at Beaver Lake, Gibbon
falls, Madison Junction,
Horseshoe Geyser, Spring Creek and
Hot Thumb. Each crew was given
charge of a section of road to
maintain. New gravel was placed
on many sections, new culverts constructed
and old ones repaired. ^{on the N. entrance road}
crew was engaged for a portion
the month, making repairs to

the road in the South Fork
to Pacific Creek, performing
real repair work to the roads,
cuts and bridges.

The Gardiner Road and all roads
the "loop" were sprinkled, except
portion over the divide where
water is available for that purpose.

August Monthly Report.

All roads throughout the Park , where water was available , were sprinkled. Small crews of 2 men and one team were stationed at the sprinkler camps and road repairs were made by these small crews. During the month of August the travel was so heavy that these small crews were unable to keep the roads in good condition, so it was found necessary for the larger crews to go over the roads with graders and fill most of the holes which seemed to develop faster than the smaller crews could handle. However the small crew of 2 , and part of the time 3 men, stationed at Virginia Meadows , have done very good work on the Norris to Canyon road. 10

At the Canyon a crew of 11 men and 4 teams placed gravel on the roads where needed, and a light grader worked the roads within a radius of 5 miles. The last of the month the 75 H.P. tractor with the power grader , scarifier, and gas roller, arrived at the Canyon, but no work was done , owing to repairs being made to the drive chains. of the tractor. 2

The Canyon to Lake road has been in very bad condition all season, and yet more work has been done on this section of the road than any other in the park. Soft places keep developing so that this road required constant work from the crew at the Canyon, the graveling crew at the Lake, and the small repair crew at Trout Creek. 11

The new road around the Lake Hotel and store has been graded up, and partly graveled, and the fill in front of the Lake Hotel has been widened and capped with gravel hauled from the pit near Mud Geyser. The 120 H.P. tractor and train of 6 four yard wagons had to be abandoned as a means of hauling gravel. A new pit near the Lake Hotel was opened, and part of the sand was screened out to make a suitable road gravel. At the present time the road is 70% completed. 5

The Dunraven Pass work is progressing well for the small crew employed. One half mile of road through solid rock was completed this month. One fill of 3500 cu. yds. , another of 2500 cu.yds., and one of 1800 cu. yds. have been completed. 6

The first of the month a crew of 12 men improved the fill over Geode Creek on the Tower Falls road. 400 cubic yards of material were placed on the fill and this capped with rock with a depth of two feet. The road from Tower Falls has been graded up twice during the month, heavy rains having caused deep ruts and holes. 160 linear feet of 18" G.I. culverts, and 120' of 24" G.I. culverts were installed. At the Beaver Dam, 5 miles from Mammoth, 100' of road was raised an average of 1 foot to avoid future trouble from water backed up by the dam. 3

The East Entrance road has been drained and shaped up by a small crew camped at the Cub Creek. At the 12 mile post a sharp turn was replaced by a cut of 400 cubic yards and the material used to raise a low section of the road which is always very bad in the spring and fall. 12

Two men and a team made necessary repairs to the sprinkling system during the month. 13

PROPOSED WORK.

It is proposed to complete the walks on the formation at the Upper Basin, to complete the Dunraven Pass widening and remaining 5 fills, -to complete the road graveling at the Lake, -to repair and make the fill at the dangerous turn at the Upper Falls at the Canyon, -To improve the Slough Creek road, and if possible to place fine gravel on the Swan Lake Flats road. 14

October 9, 1920.

Dear Sir:

I transmit herewith, for file with my monthly report of affairs in Yellowstone National Park for August, 1920, the Cost of Work Report covering the period August 1 to 31, 1920.

Cordially yours,

Horace M. Albright,
Superintendent.

Inclosure.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.